

# **CURRENT RESEARCH AND DEVELOPMENT IN BIOTECHNOLOGY ENGINEERING AT IIUM**

**VOLUME II**

Editors:

Ibrahim Ali Noorbatcha  
Hamzah Mohd. Salleh  
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Raha Ahmad Raus



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## CHAPTER 2

### THE EVALUATION ON ANTICANCER PROPERTIES FROM KENAF SEEDS OIL FROM DIFFERENT VARIETIES

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#### ABSTRACT

Kenaf (*Hibiscus cannabinus*) from the family of Malvaceae is a valuable fibre plant native to India and Africa. Kenaf is composed of various active components including tannins, polyphenolics, alkaloids, essential oils and steroids. In this study, kenaf seeds oil was used as a material in observing the anticancer activity on MCF-7 cancer cells line and finding the optimum parameter to extract the oil that give the highest anticancer activity. Three varieties of kenaf seeds were utilized and their seeds were screened for their anticancer properties. Khon kaen shows the highest anticancer activity with the IC<sub>50</sub> value of 229.17 µg/mL.

**Keywords:** Anticancer, Kenaf seeds oil, MCF-7 cells line

#### INTRODUCTION

Kenaf or its scientific name, *Hibiscus cannabinus* L. is an herbaceous annual fiber crop of the Malvaceae family. The composition of kenaf seeds oil is almost similar to the cotton seeds except that it does not contain gossypol, a toxic phenolic pigment. The oil from kenaf seeds has high content of unsaturated fatty acids, linoleic acid, phospholipids and phytosterols (Mohamed, Bhardwaj, Hamama, & Webber III, 1995). In recent studies, it is reported that kenaf seeds oil is proved to have anti-oxidants (Chan & Ismail, 2009). Based on their study, we might suggest that, since kenaf seeds oil contains high anti-oxidant compound, there is high probability that it might also contain anticancer compounds. Therefore, this study aimed to identify the best Kenaf variety that contains highest anti-cancer activity in its seeds.